

Health Disparities in Epilepsy

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Treatment Gap

“Percentage of patients in a defined population at any given time, with active epilepsy, not receiving treatment”

- Diagnostic
- Surgical
- Medical



Calculating the Treatment Gap AEDs

$$\left[\frac{(\text{N PWE}) - (\text{N PWE Treated})}{(\text{N PWE})} \right] \times 100$$

N PWE = Number of People with Epilepsy

N PWE

- Door-to-door Survey ** ~ 90% of studies
- Estimated ~ 10% of studies
 - 0.5% of the population **
- Active ** ~ 50% of studies
 - Within last 5 years ** ~70% of studies
 - Within last 1 or 2 years ~ 30% of studies
- Active or Inactive ~ 50% of studies

** Recommended

N PWE Treated

- Direct Method
 - Door to door survey ** 90% of studies
- Indirect Method ~10% of studies
 - Crude but useful
 - Amount of each type of AED sold in a region
 - Divided by Defined Daily Dose for each AED

**Recommended

The epilepsy treatment gap in developing countries: A systematic review of the magnitude, causes, and intervention strategies

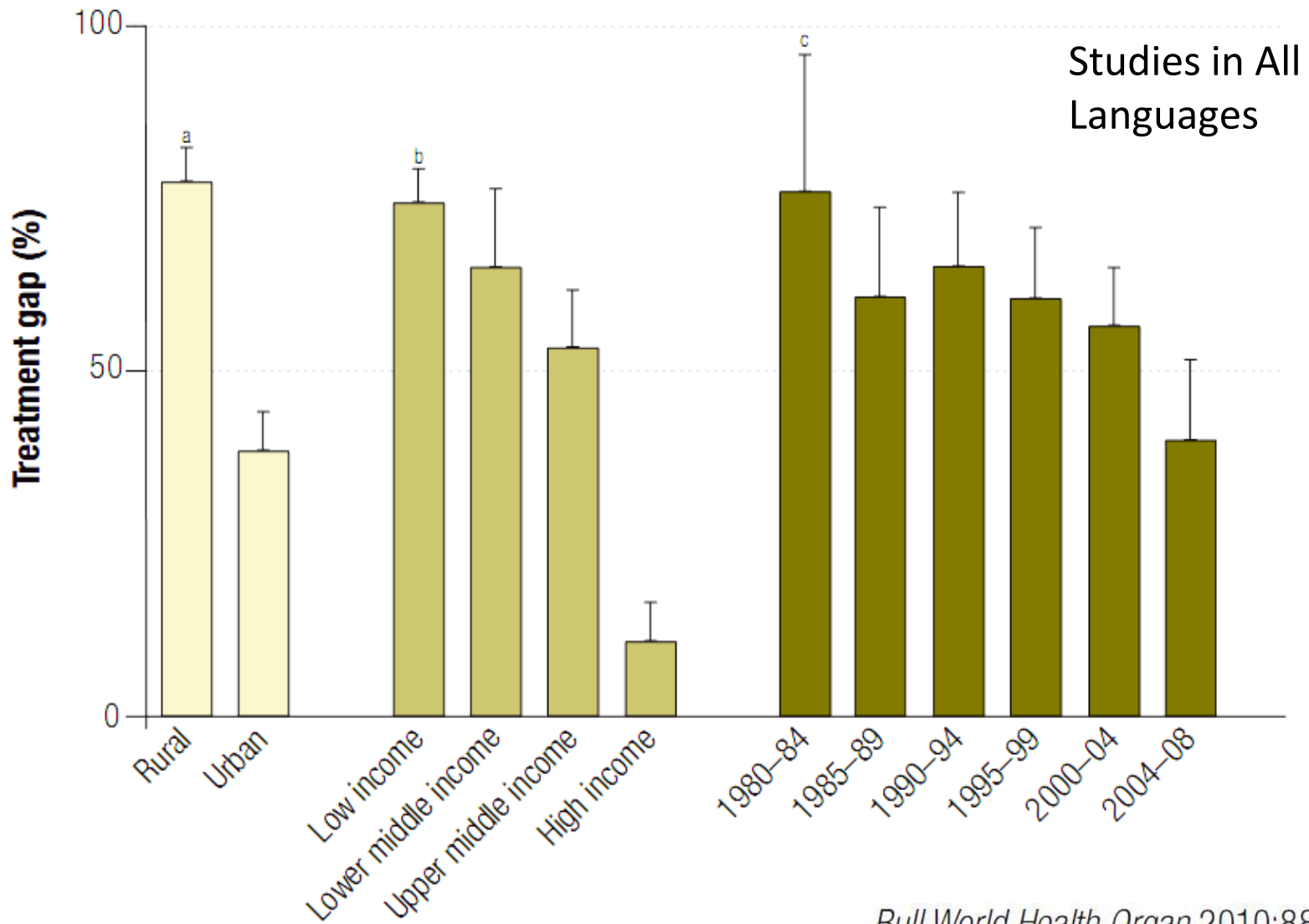
*Caroline K. Mbuba, *Anthony K. Ngugi, *†‡Charles R. Newton, and §Julie A. Carter

Table 1. Magnitude of the epilepsy treatment gap by region and location

Continent/ location	No. of studies	TG (%)	Lower 95% CI	Upper 95% CI
Latin America	7	55.4	39.0	78.6
Asia	4	64.3	24.3	100.0
Africa	3	48.9	14.3	100.0
Urban	7	46.8	34.1	64.2
Rural	7	73.3	49.5	100.0

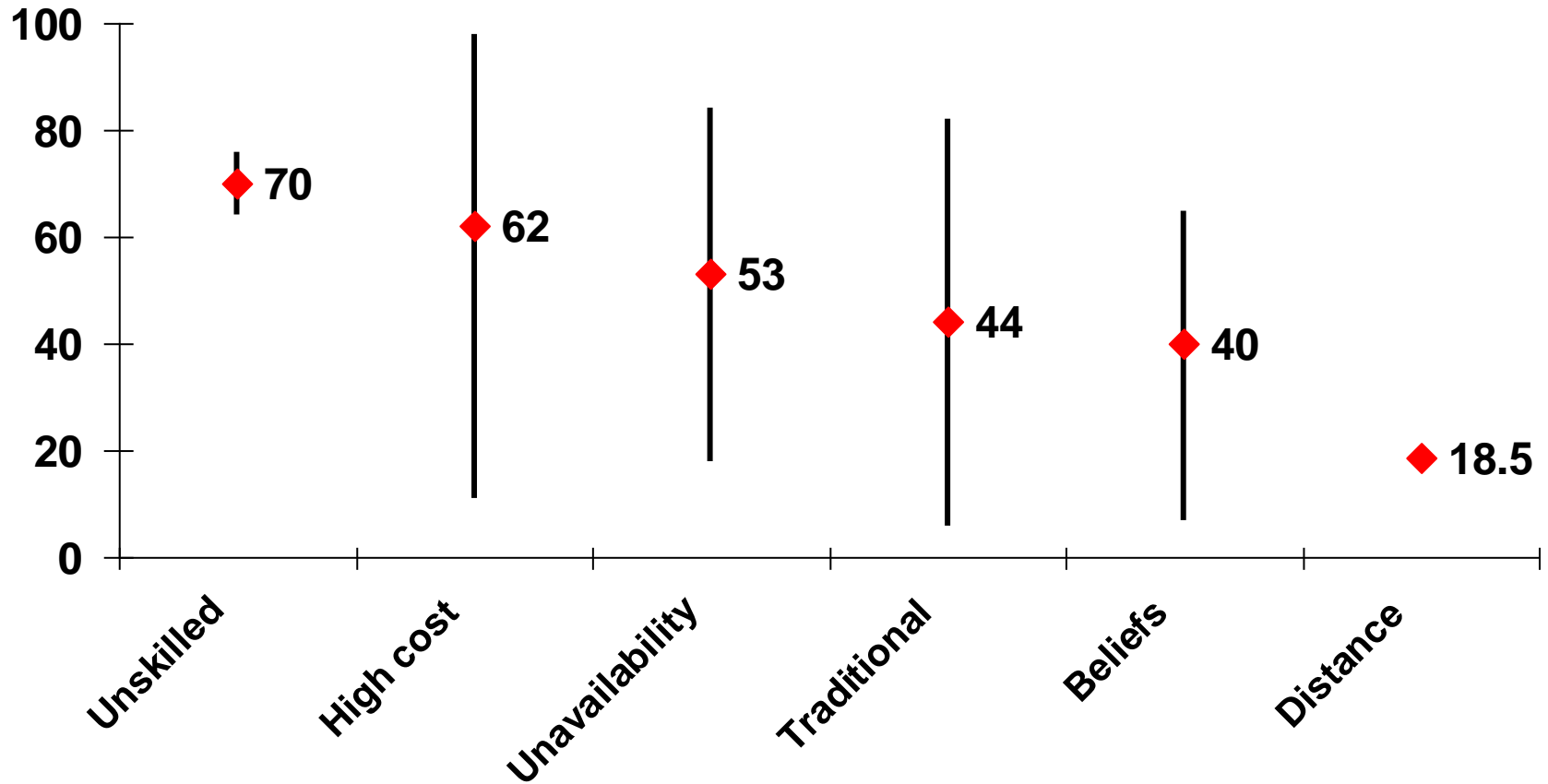
Global disparities in the epilepsy treatment gap: a systematic review

Ana-Claire Meyer,^a Tarun Dua,^b Juliana Ma,^c Shekhar Saxena^b & Gretchen Birbeck^d



Causes of Treatment Gap: AEDs

Median and Range



Disparities in Health Care



Systematic differences in the use or receipt of health care services between groups of people who have comparable needs for these services

Disparities in epilepsy: Report of a systematic review by the North American Commission of the International League Against Epilepsy

*Jorge G. Burneo, †Nathalie Jette, ‡William Theodore, §Charles Begley,
¶Karen Parko, **David J. Thurman, and †Samuel Wiebe for the Task Force

- Systematic Review = 44 articles

Access to care	5
Knowledge & attitudes	9
Employment, education, disability	7
Prevalence, Incidence	8
Outcomes-Medical, Surgical	12, 3

- Predictors analyzed
 - Age, gender, socioeconomic status, race/ethnicity, education, comorbidities

	Care (5)	K&A (9)	Employ-Ed (7)	Epidem (8)	Outcomes (5/15)
N patients (range)	30 -1430	24 -2700	96-313	1000s	64-430
Population based	2 (40)	4 (44)	1 (14)	8 (100)	0
Specific populations	3 (60)	5 (56)	6 (86)	0	5 (100)
Prospective	0	0	0	2 (25)	4 (80)
Cross-sectional , Retrospective	5 (100)	9 (100)	7 (100)	5 (63)	1 (20)
Medical records	1 (20)	0	0	0	3 (60)
Internal comparison (epilepsy only)	3 (60)	5 (56)	4 (57)	8 (100)	5 (100)
External comparison (other)	2 (40)	4 (44)	3 (43)	8 (100)	0

Lower Use or Access to Care

- Epilepsy Surgery
 - African Americans – **Trend**
- AED adherence
 - Lower SES
 - No Insurance or Medicaid
 - Non-Caucasian, Poor communication with clinician
- Mental health services
 - Lower education, AED polytherapy, comorbidity

Type of Health Care

Independent of SES or urban/rural

- Children
 - More Neurologists, ER, hospitalization
- Women
 - More neurologists
 - Fewer Family physician
- Aboriginals (Canada)
 - More ER (x2), hospitalization (x3)
 - Fewer neurologists (X0.3)

Sociodemographic disparities in epilepsy care: Results from the Houston/New York City health care use and outcomes study

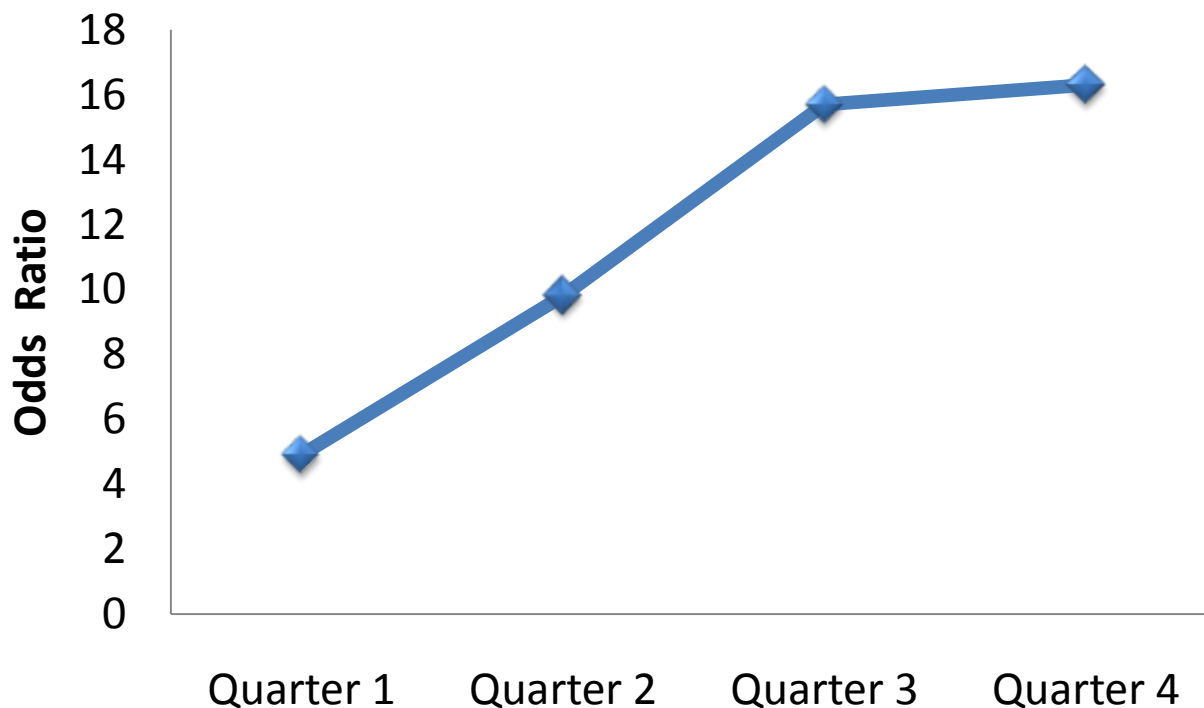
*Charles E. Begley, *Rituparna Basu, *Thomas Reynolds, *David R. Lairson,

- Longitudinal: quarterly surveys x 1 year, 560 clinic attendees
- Four hospitals: 2 NY, 2 Houston, 3 University affiliated,
- Non-Whites compared to Whites
 - GP visits OR 5.3
 - ER visits OR 3.1
 - Hospitalization OR 5.4
 - Specialist OR 0.3
- **Differences were largely due to HOSPITAL**
 - Worse in University affiliated
- “Where you seek help is more important than who you are”

Socioeconomic status, health care use, and outcomes: Persistence of disparities over time

*Charles Begley, †Rituparna Basu, *David Lairson, *Thomas Reynolds, ‡Stephanie Dubinsky,
‡Michael Newmark, §Forbes Barnwell, ¶Allen Hauser, and #Dale Hesdorffer

Side Effects



“Coverage Gap”

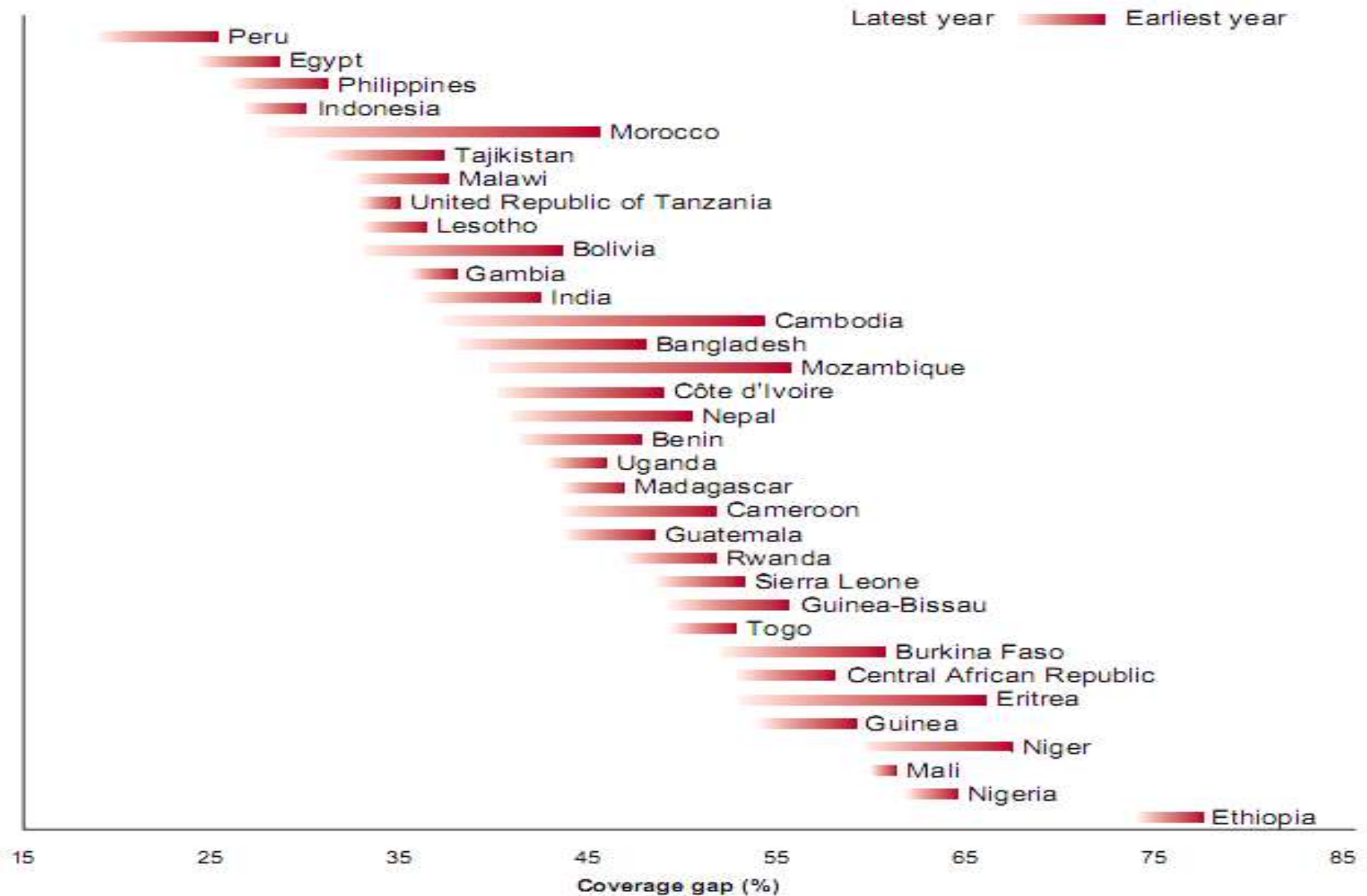
Coverage of Maternal-Newborn Services

Countdown 2008 Equity Analysis Group

$$\frac{\left(\frac{\text{ORT} + \text{ARI}}{2} + \text{FP} + \frac{\text{SBA} + \text{ANC}}{2} + \frac{\text{MSL} + 2\text{DPT3} + \text{BCG}}{4} \right)}{4}$$

where ORT=oral rehydration therapy; ARI=acute respiratory infection; FP=family planning; SBA=skilled birth attendance; ANC=antenatal care; MSL=measles vaccination; and DPT3=three doses of diphtheria, pertussis, and tetanus vaccine.

Coverage Gap



Designing Interventions

Barriers

Personal/Family

- acceptability
- cultural
- language/literacy
- attitudes, beliefs
- preferences
- involvement in care
- health behavior
- education/income

Structural

- availability
- appointments
- how organized
- transportation

Financial

- insurance coverage
- reimbursement levels
- public support

Use of Services

-
- Visits
 - primary care
 - specialty
 - emergency
 - Procedures
 - preventive
 - diagnostic
 - therapeutic

Mediators

-
- Quality of providers
 - cultural competence
 - communication skills
 - medical knowledge
 - technical skills
 - bias/stereotyping
 - Appropriateness of care
 - Efficacy of treatment
 - Patient adherence

Outcomes

-
- Health Status
 - mortality
 - morbidity
 - well-being
 - functioning
 - Equity of Services
 - Patient Views of Care
 - experiences
 - satisfaction
 - effective partnership

- We need
 - Define what is adequate health coverage
 - Identify gaps and effects on health status
 - Identify determinants
 - Understand role of health disparities in general
 - Propose standard methodology
 - Intervene and measure outcomes